



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,783	08/17/2006	Morito Morishima	YAMA: 138	9499
37013	7590	12/12/2007		
ROSSI, KIMMS & McDOWELL LLP.			EXAMINER	
P.O. BOX 826			PAUL, DISLER	
ASHBURN, VA 20146-0826				
			ART UNIT	PAPER NUMBER
			2615	
			MAIL DATE	DELIVERY MODE
			12/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/589,783	Applicant(s) MORISHIMA, MORITO	
	Examiner Disler Paul	Art Unit 2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 8/17/06.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1,4-5,8,11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiraishi (US 6,954,538 B2) and Kim et al. (US 7,155,017 B2).

Re claim 1, Shiraishi disclose of the sound reproducing apparatus for driving a plurality of speakers to reproduce multi-channel sound, the sound reproducing apparatus comprising: a generator that generates a measuring signal and supplies the measuring signal to a to-be-detected speaker of the plurality of speakers (fig.1 wt (100,201-206); fig.2; col.4 line 35-40; col.6 line 35-41); at least two sensors disposed in a listening position, each of the at least two sensors transmitting a reception notification when receiving a measuring sound wave radiated from the to-be-detected speaker in accordance with the measuring signal (fig.5 wt (306a,306b); fig.7; col.8 line 25-31); a time difference measuring unit that measures, as to each of the at least two sensors, a time difference between a time instant when the measuring signal is generated and a time instant when the reception notification is received from each of the at least two sensors and a

distance calculator that calculates, as to each of the at least two sensors, a distance between each of the at least two sensors and the to-be-detected speaker based on the measured time difference (col.3 line 55-67; col.4 line 45-54; col.6 line 63-67/the time between sensors and speaker signals).

While, Shiraishi disclose of the above with the further including the time distance of the speaker and sensors, However, He fail to further disclose of the position calculator that calculates a position of the to-be-detected speaker based on a distance between the at least two sensors and the calculated distance. However, Kim et al. disclose of system wherein further include the position calculator that calculates a position of the to-be-detected speaker based on a distance between the at least two sensors and the calculated distance (col.4 line 22-56, fig.2 wt (220)) for the purpose of placing speakers in locations designed for optimal sound audio playback. Thus, taking the combined teaching of shiraishi and now Kim et al. as a whole, it would have been obvious for one of the ordinary skill in the art at the time of the invention to have modify Shiraishi by incorporating the position calculator that calculates a position of the to-be-detected speaker based on a distance between the at least two sensors and the calculated distance for the purpose of placing speakers in locations designed for optimal sound audio playback. The combined

teaching of shiraishi and now Kim et al. as a whole, further teach of the storage that stores the calculated position of the to-be-detected speaker (fig.2 wt (230); col.4 line 5-15).

Re claims 5,8,11 have been analyzed and rejected with respect to claim 1 above.

Re claim 4, the combined teaching of Shiraishi and Kim et al. as a whole, further disclose of the sound reproducing apparatus according to claim 1, wherein: a distance between at least two speakers of the plurality of speakers is known (kim, col.4 line 25-28); and the position calculator calculates a distance between the at least two sensors and positions of the at least two sensors based on distances between the at least two sensors and the at least two speakers calculated by the distance calculator, and the distance between the at least two speakers (col.4 line 25-55/positions calculated with distance of speakers and sensors).

3. Claims 2,6,9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiraishi (US 6,954,538 B2) and Kim et al. (US 7,155,017 B2) and further in view of Koyama (US 2004/0258259 A1).

Re claim 2, the sound reproducing apparatus according to claim 1, However, the combined teaching of Shiraishi and Kim et al. as a whole, fail to disclose of the comprising a speaker layout corrector that changes over signal lines from an amplifier to the speakers and corrects an incorrect layout of the speakers when it is judged that respective speaker positions stored in the storage are out of a predetermined relative position relationship of the speakers. However, Koyama disclose of the comprising a speaker layout corrector that changes over signal lines from an amplifier to the speakers and corrects an incorrect layout of the speakers when it is judged that respective speaker positions stored in the storage are out of a predetermined relative position relationship of the speakers (par[0014,0058,0072-0073,0084,0098/memory/storage table for correcting out predetermined positional speakers] for the purpose performing speakers set up when an acoustic apparatus in which a number of speakers locations are connected in accordance to each applications or sources reproduced. Thus, taking the combined teaching of Shiraishi and Kim et al. and Koyama as a whole, it would have been obvious for one of the ordinary skill in the art at the time of the invention to have modify combined teaching of Shiraishi and Kim et al. as a whole, by incorporating the speaker layout corrector that changes over signal lines from an amplifier to the speakers and corrects an incorrect layout of the speakers when it is judged that respective speaker positions stored in the storage are out of a predetermined relative

position relationship of the speakers for the purpose performing speakers set up when an acoustic apparatus in which a number of speakers locations are connected in accordance to each applications or sources reproduced.

Re claims 6, 9 have been analyzed and rejected with respect to claim 2 respectively.

4. Claims 3,7,10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiraishi (US 6,954,538 B2) and Kim et al. (US 7,155,017 B2) and further in view of Sekine (US 2004/0228498 A1).

Re claim 3, the sound reproducing apparatus according to claim 1, However, the combined teaching of Shiraishi and Kim et al. as a whole, fail to disclose of the further comprising a sound field controller that produces sound image localization as if the speakers were located in predetermined recommended positions, respectively, based on respective positions of the speakers stored in the storage. However, Sekine disclose of a system wherein comprising a sound field controller that produces sound image localization as if the speakers were located in predetermined recommended positions, respectively, based on respective positions of the speakers stored in the storage

(fig.1 wt (14-15); 0116,0090,0063-0064) for the purpose of simulating the sound speakers according to the respective signals of sound. Thus, taking the combined teaching of Shiraishi and Kim et al. and Sekine as a whole, it would have been obvious for one of the ordinary skill in the art at the time of the invention to have modify the combined teaching of Shiraishi and Kim et al. as a whole, by incorporating the further comprising a sound field controller that produces sound image localization as if the speakers were located in predetermined recommended positions, respectively, based on respective positions of the speakers stored in the storage for the purpose of simulating the sound speakers according to the respective signals of sound.

Re claims 7, 10 have been analyzed and rejected with respect to claim 3 respectively.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Disler Paul whose telephone number is 571-270-1187. The examiner can normally be reached on 7:30-5:00.


Application/Control Number:
10/589,783
Art Unit: 2615

Page 8

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DP


VIVIAN CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2000